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The endosymbiotic relationship between *Trichomonas vaginalis* and *Mycoplasma hominis* in Egyptian women and its correlation with pathogenicity

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Trichomonas vaginalis is the etiological parasite of trichomoniasis. Endosymbiotic *Mycoplasma hominis* can exist in *T. vaginalis* populations. However, its consequences are not yet known. Recently, *T. vaginalis* isolates positive for *M. hominis* as proven by PCR had greater cytopathic effects on human vaginal epithelial cells and also on Madin–Darby canine kidney cells *in vitro*. This study aimed to detect the presence of *M. hominis* infecting Egyptian *T. vaginalis* isolates and to evaluate the pathogenicity of this association in vivo. 45 symptomatic and asymptomatic *T. vaginalis* isolates were obtained from Suez Canal and General Hospitals, Ismailia city, Egypt. All isolates were axenically cultivated in Diamond's TYM medium, followed by DNA extraction and PCR using primer pair targeting 16S rRNA gene to detect *M. hominis*-infected isolates. Positive *M. hominis* PCR products were subjected to sequencing analysis. All isolates were experimentally inoculated intravaginally in female albino mice to assess the pathogenicity of different isolates. The detection rate of *M. hominis*-positive *T. vaginalis* isolates was 20% as determined with PCR. No statistically significant association was recorded between *M. hominis*-infected *T. vaginalis* among symptomatic and asymptomatic isolates. Experimental mice infection showed varying degrees of inflammation by the different isolates. To our knowledge, this study is the first report of *T. vaginalis* infection by *M. hominis* among Egyptian isolates and it was deduced that the association of *M. hominis* and *T. vaginalis* does not affect the clinical presentation of vaginal trichomoniasis and does not cause enhanced pathological changes in infected mice.

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